

FIG. 1

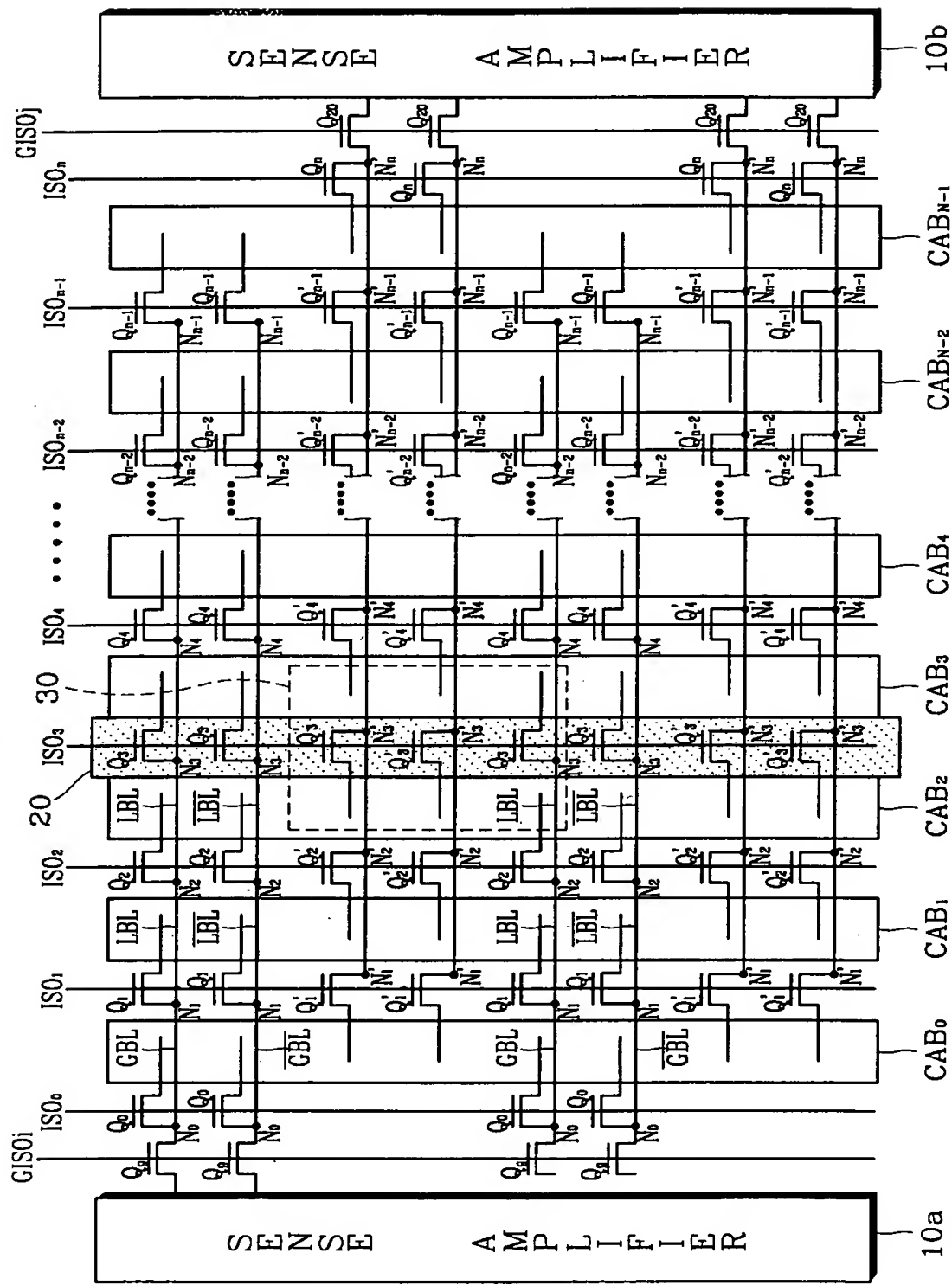
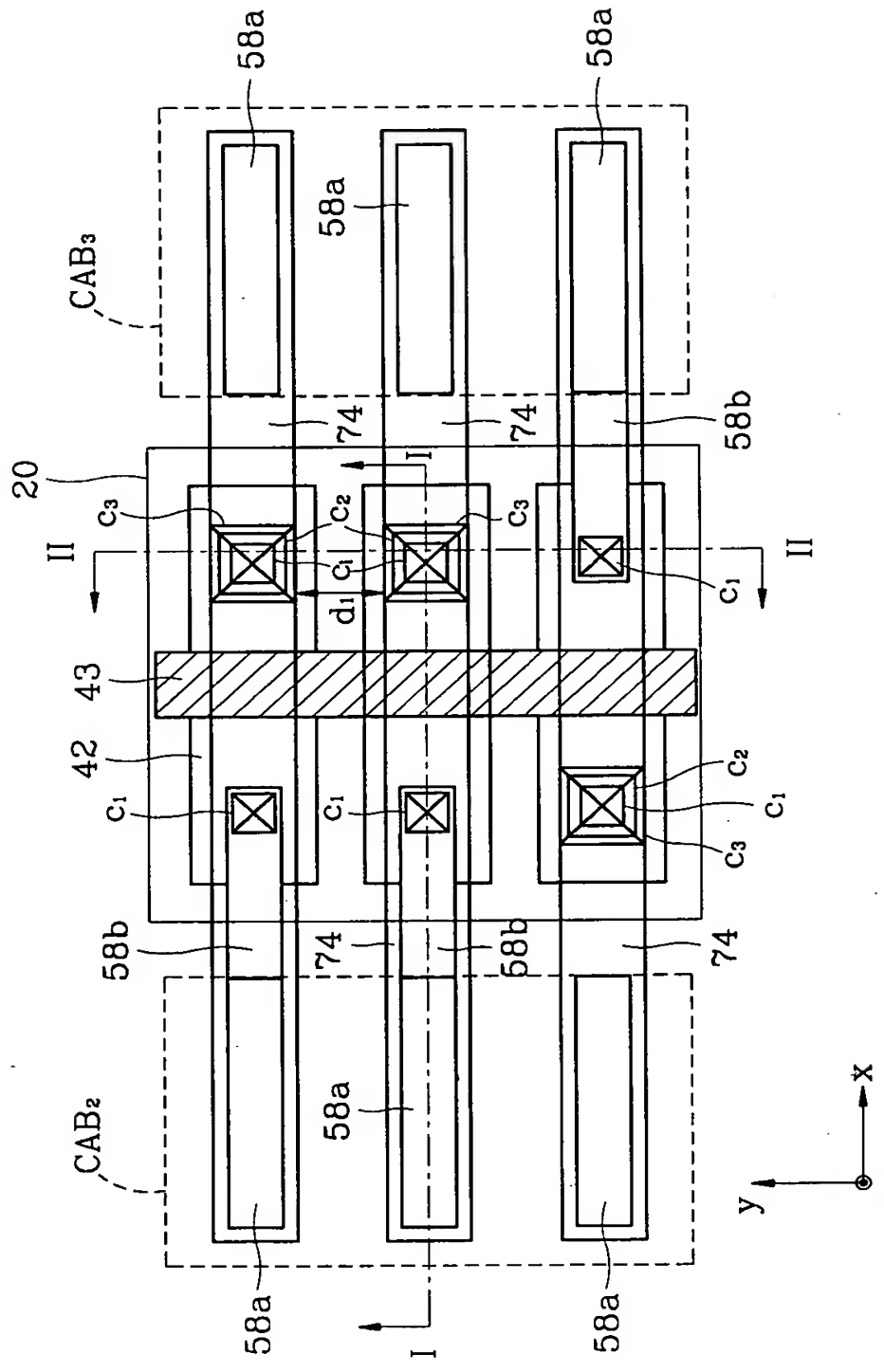


FIG. 2



Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

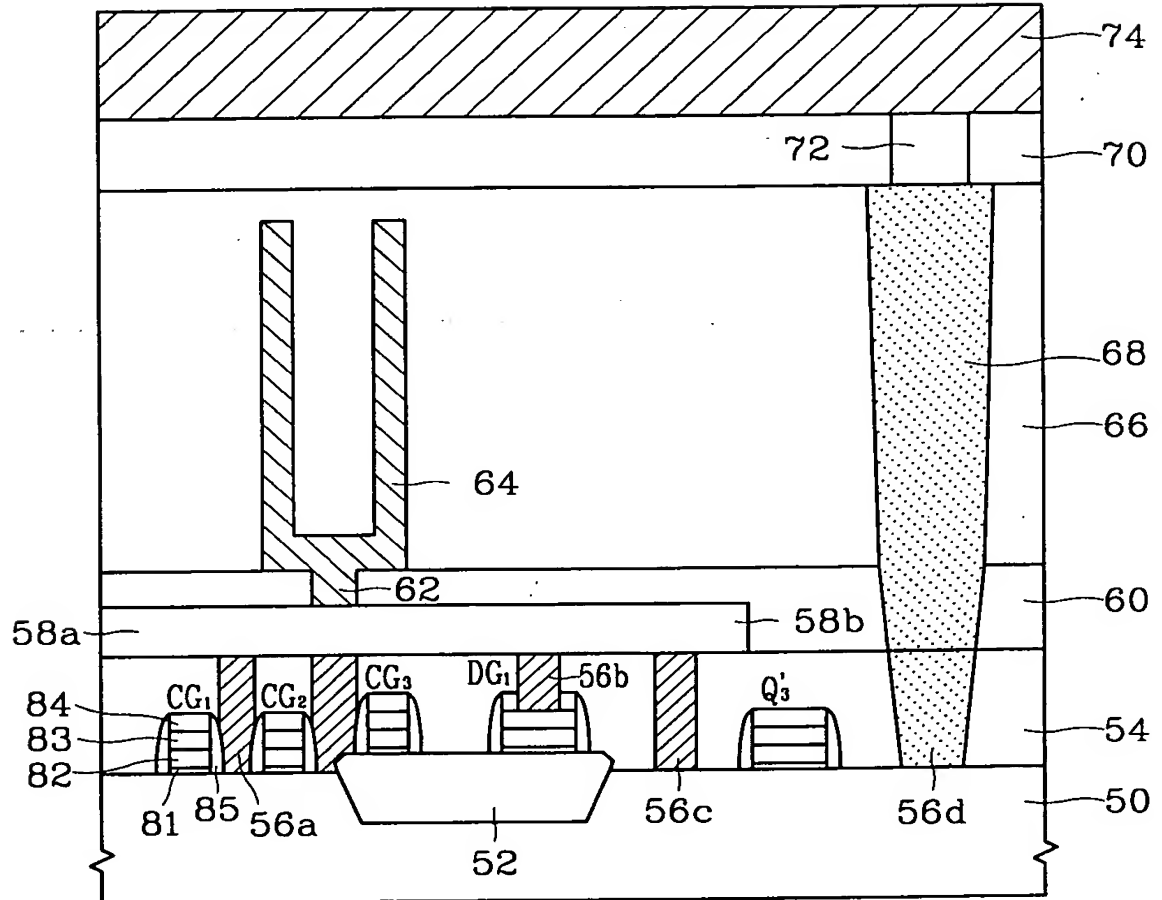
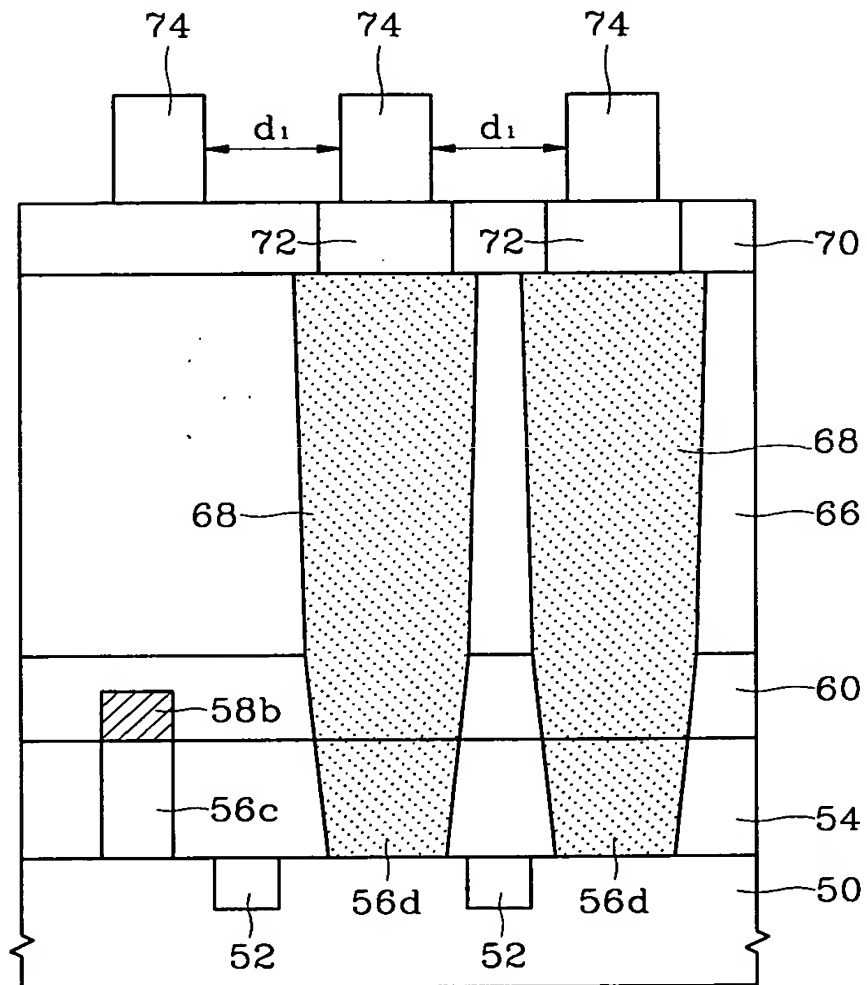


FIG. 3B



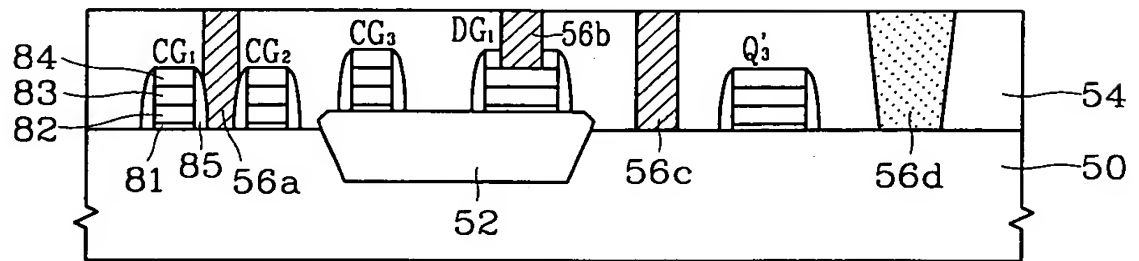
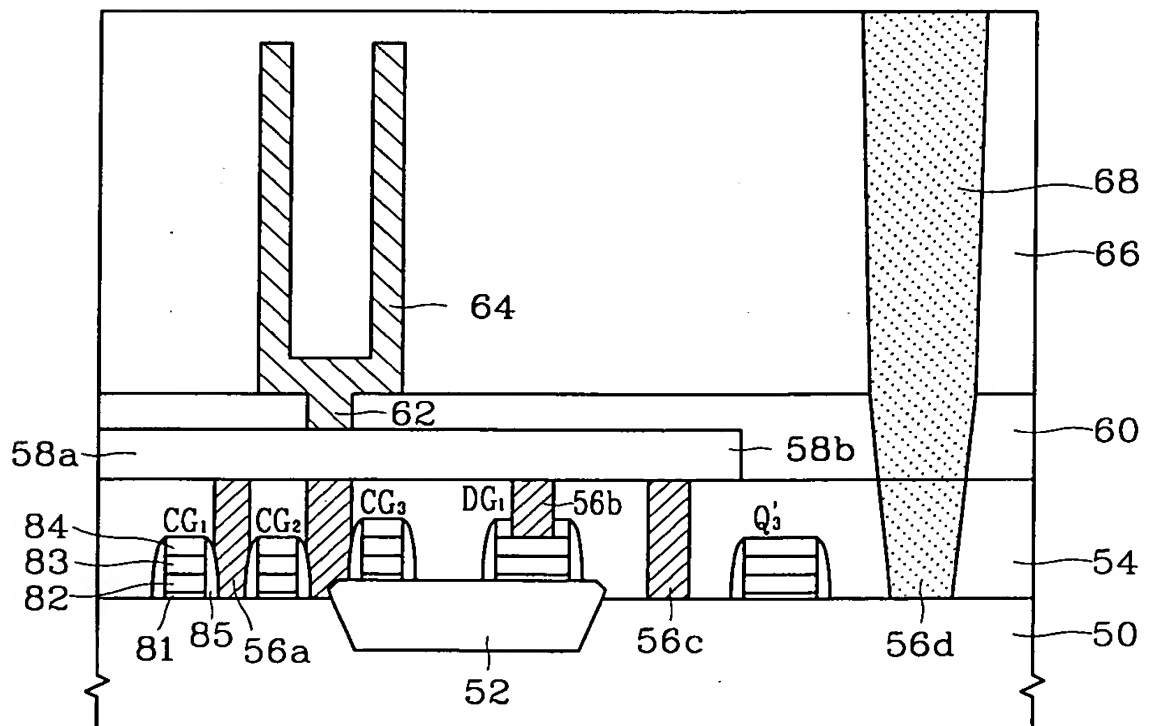
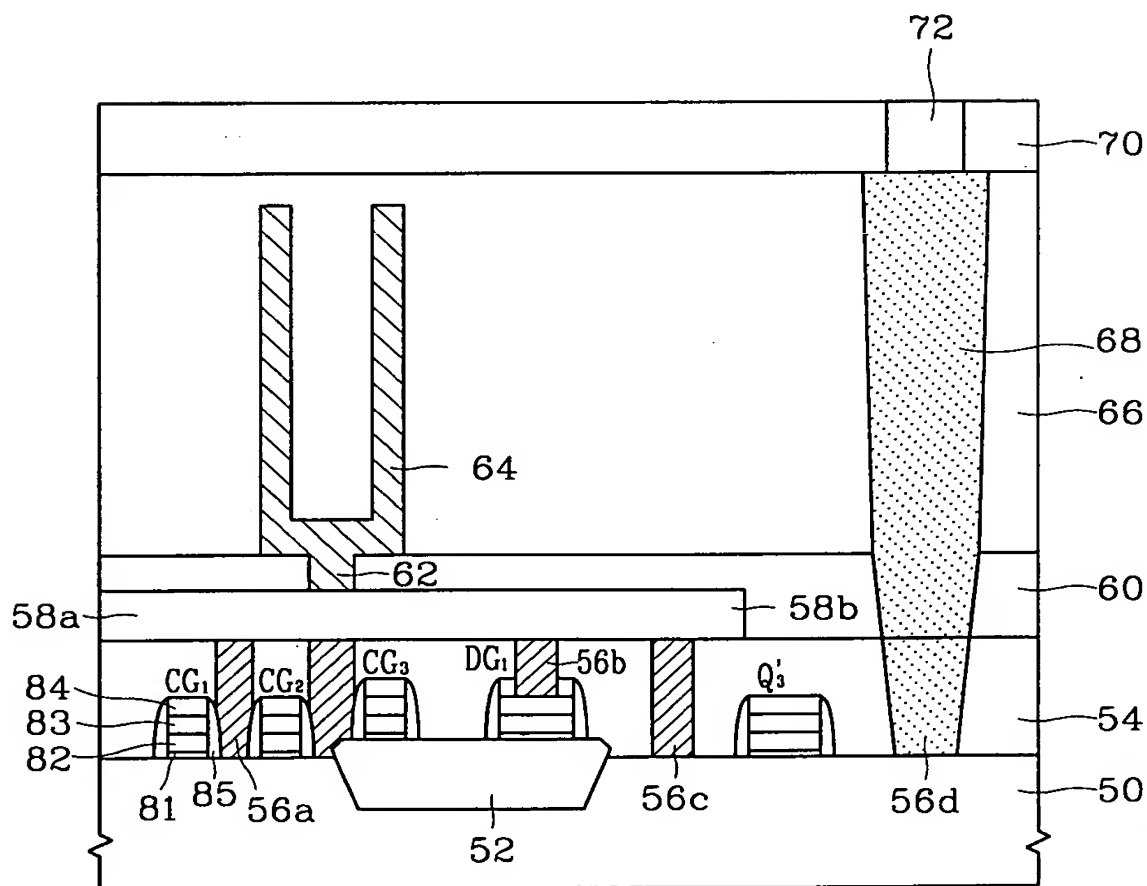
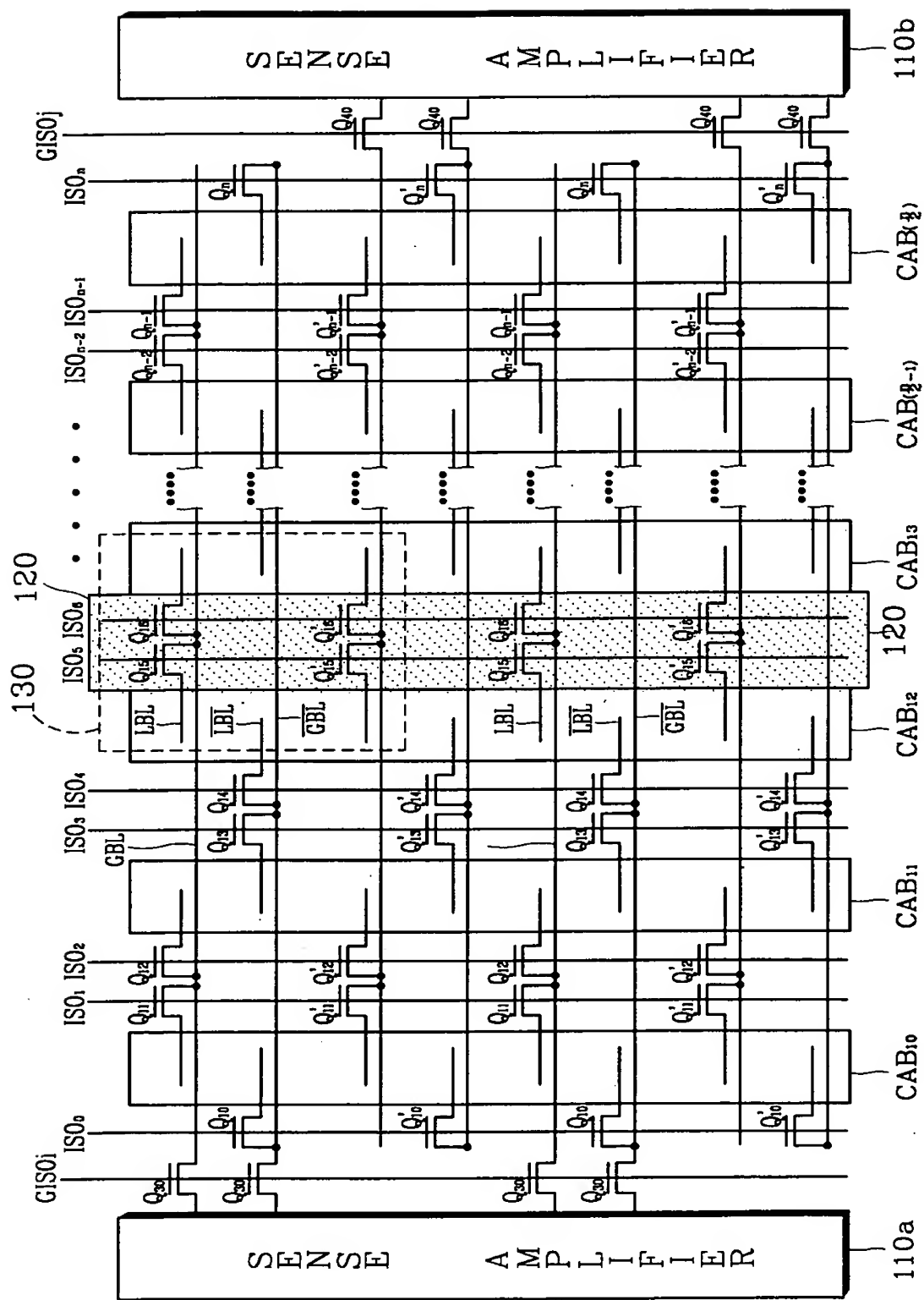


FIG. 4B

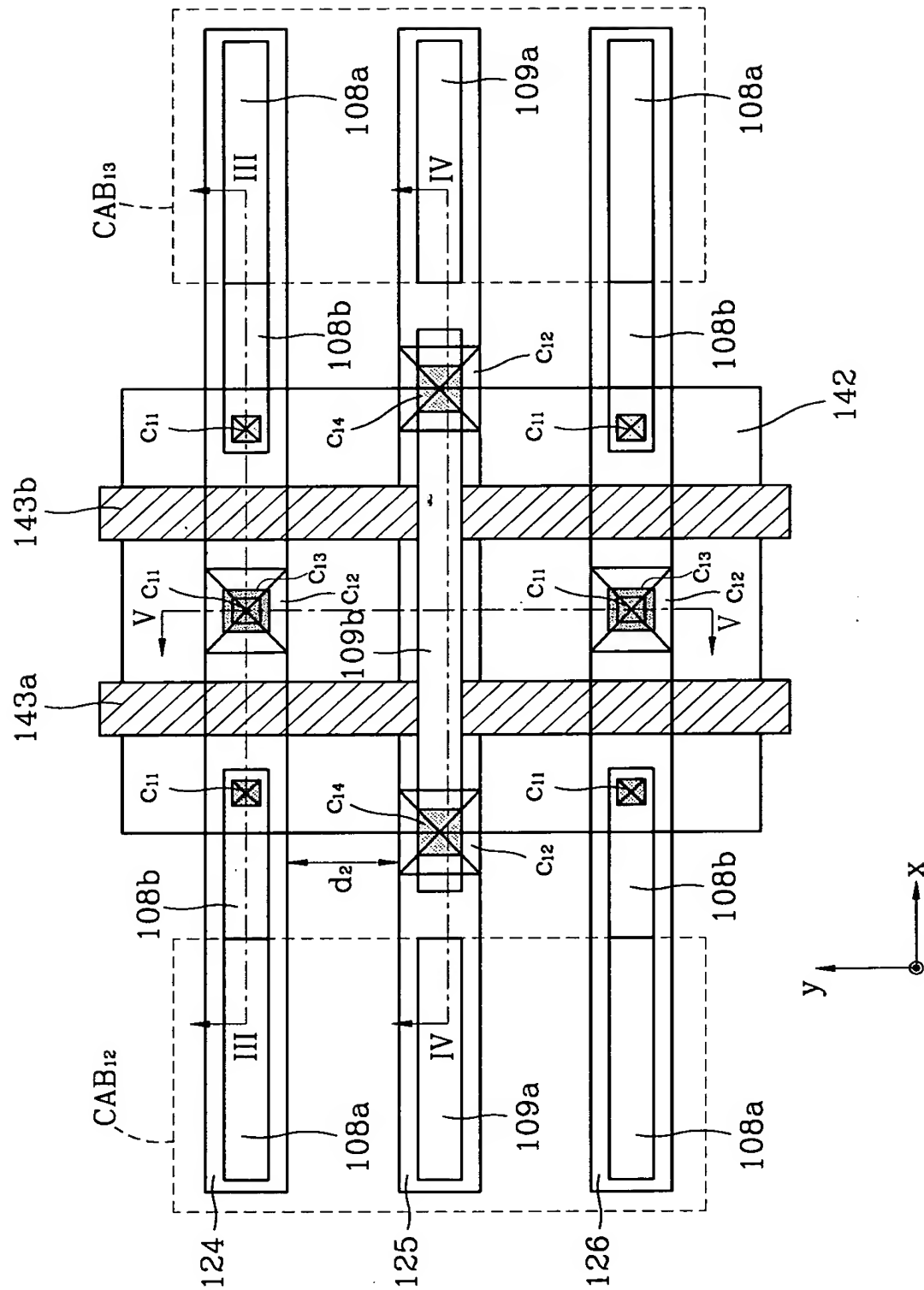


[illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100



Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100



This cross-sectional view illustrates a semiconductor device with a substrate 100. A series of layers are deposited on the substrate, including a layer 104, a layer 106a, and a layer 106b. A central region 102 is defined by a layer 106c. The device features several regions labeled with reference numerals: 108a, 108b, 108c, 108d, 108e, 108f, 108g, 108h, 108i, 108j, 108k, 108l, 108m, 108n, 108o, 108p, 108q, 108r, 108s, 108t, 108u, 108v, 108w, 108x, 108y, 108z, 108aa, 108ab, 108ac, 108ad, 108ae, 108af, 108ag, 108ah, 108ai, 108aj, 108ak, 108al, 108am, 108an, 108ao, 108ap, 108aq, 108ar, 108as, 108at, 108au, 108av, 108aw, 108ax, 108ay, 108az, 108ba, 108bb, 108bc, 108bd, 108be, 108bf, 108bg, 108bh, 108bi, 108bj, 108bk, 108bl, 108bm, 108bn, 108bo, 108bp, 108bq, 108br, 108bs, 108bt, 108bu, 108bv, 108bw, 108bx, 108by, 108bz, 108ca, 108cb, 108cc, 108cd, 108ce, 108cf, 108cg, 108ch, 108ci, 108cj, 108ck, 108cl, 108cm, 108cn, 108co, 108cp, 108cq, 108cr, 108cs, 108ct, 108cu, 108cv, 108cw, 108cx, 108cy, 108cz, 108da, 108db, 108dc, 108dd, 108de, 108df, 108dg, 108dh, 108di, 108dj, 108dk, 108dl, 108dm, 108dn, 108do, 108dp, 108dq, 108dr, 108ds, 108dt, 108du, 108dv, 108dw, 108dx, 108dy, 108dz, 108ea, 108eb, 108ec, 108ed, 108ee, 108ef, 108eg, 108eh, 108ei, 108ej, 108ek, 108el, 108em, 108en, 108eo, 108ep, 108eq, 108er, 108es, 108et, 108eu, 108ev, 108ew, 108ex, 108ey, 108ez, 108fa, 108fb, 108fc, 108fd, 108fe, 108ff, 108fg, 108fh, 108fi, 108fj, 108fk, 108fl, 108fm, 108fn, 108fo, 108fp, 108fq, 108fr, 108fs, 108ft, 108fu, 108fv, 108fw, 108fx, 108fy, 108fz, 108ga, 108gb, 108gc, 108gd, 108ge, 108gf, 108gg, 108gh, 108gi, 108gj, 108gk, 108gl, 108gm, 108gn, 108go, 108gp, 108gq, 108gr, 108gs, 108gt, 108gu, 108gv, 108gw, 108gx, 108gy, 108gz, 108ha, 108hb, 108hc, 108hd, 108he, 108hf, 108hg, 108hh, 108hi, 108hj, 108hk, 108hl, 108hm, 108hn, 108ho, 108hp, 108hq, 108hr, 108hs, 108ht, 108hu, 108hv, 108hw, 108hx, 108hy, 108hz, 108ia, 108ib, 108ic, 108id, 108ie, 108if, 108ig, 108ih, 108ii, 108ij, 108ik, 108il, 108im, 108in, 108io, 108ip, 108iq, 108ir, 108is, 108it, 108iu, 108iv, 108iw, 108ix, 108iy, 108iz, 108ja, 108jb, 108jc, 108jd, 108je, 108jf, 108jg, 108jh, 108ji, 108jj, 108jk, 108jl, 108jm, 108jn, 108jo, 108jp, 108jq, 108jr, 108js, 108jt, 108ju, 108jv, 108jw, 108jx, 108jy, 108jz, 108ka, 108kb, 108kc, 108kd, 108ke, 108kf, 108kg, 108kh, 108ki, 108kj, 108kk, 108kl, 108km, 108kn, 108ko, 108kp, 108kq, 108kr, 108ks, 108kt, 108ku, 108kv, 108kw, 108kx, 108ky, 108kz, 108la, 108lb, 108lc, 108ld, 108le, 108lf, 108lg, 108lh, 108li, 108lj, 108lk, 108ll, 108lm, 108ln, 108lo, 108lp, 108lq, 108lr, 108ls, 108lt, 108lu, 108lv, 108lw, 108lx, 108ly, 108lz, 108ma, 108mb, 108mc, 108md, 108me, 108mf, 108mg, 108mh, 108mi, 108mj, 108mk, 108ml, 108mm, 108mn, 108mo, 108mp, 108mq, 108mr, 108ms, 108mt, 108mu, 108mv, 108mw, 108mx, 108my, 108mz, 108na, 108nb, 108nc, 108nd, 108ne, 108nf, 108ng, 108nh, 108ni, 108nj, 108nk, 108nl, 108nm, 108nn, 108no, 108np, 108nq, 108nr, 108ns, 108nt, 108nu, 108nv, 108nw, 108nx, 108ny, 108nz, 108oa, 108ob, 108oc, 108od, 108oe, 108of, 108og, 108oh, 108oi, 108oj, 108ok, 108ol, 108om, 108on, 108oo, 108op, 108oq, 108or, 108os, 108ot, 108ou, 108ov, 108ow, 108ox, 108oy, 108oz, 108pa, 108pb, 108pc, 108pd, 108pe, 108pf, 108pg, 108ph, 108pi, 108pj, 108pk, 108pl, 108pm, 108pn, 108po, 108pp, 108pq, 108pr, 108ps, 108pt, 108pu, 108pv, 108pw, 108px, 108py, 108pz, 108qa, 108qb, 108qc, 108qd, 108qe, 108qf, 108qg, 108qh, 108qi, 108qj, 108qk, 108ql, 108qm, 108qn, 108qo, 108qp, 108qq, 108qr, 108qs, 108qt, 108qu, 108qv, 108qw, 108qx, 108qy, 108qz, 108ra, 108rb, 108rc, 108rd, 108re, 108rf, 108rg, 108rh, 108ri, 108rj, 108rk, 108rl, 108rm, 108rn, 108ro, 108rp, 108rq, 108rr, 108rs, 108rt, 108ru, 108rv, 108rw, 108rx, 108ry, 108rz, 108sa, 108sb, 108sc, 108sd, 108se, 108sf, 108sg, 108sh, 108si, 108sj, 108sk, 108sl, 108sm, 108sn, 108so, 108sp, 108sq, 108sr, 108ss, 108st, 108su, 108sv, 108sw, 108sx, 108sy, 108sz, 108ta, 108tb, 108tc, 108td, 108te, 108tf, 108tg, 108th, 108ti, 108tj, 108tk, 108tl, 108tm, 108tn, 108to, 108tp, 108tq, 108tr, 108ts, 108tt, 108tu, 108tv, 108tw, 108tx, 108ty, 108tz, 108ua, 108ub, 108uc, 108ud, 108ue, 108uf, 108ug, 108uh, 108ui, 108uj, 108uk, 108ul, 108um, 108un, 108uo, 108up, 108uq, 108ur, 108us, 108ut, 108uu, 108uv, 108uw, 108ux, 108uy, 108uz, 108va, 108vb, 108vc, 108vd, 108ve, 108vf, 108vg, 108vh, 108vi, 108vj, 108vk, 108vl, 108vm, 108vn, 108vo, 108vp, 108vq, 108vr, 108vs, 108vt, 108vu, 108vv, 108vw, 108vx, 108vy, 108vz, 108wa, 108wb, 108wc, 108wd, 108we, 108wf, 108wg, 108wh, 108wi, 108wj, 108wk, 108wl, 108wm, 108wn, 108wo, 108wp, 108wq, 108wr, 108ws, 108wt, 108wu, 108wv, 108ww, 108wx, 108wy, 108wz, 108xa, 108xb, 108xc, 108xd, 108xe, 108xf, 108xg, 108xh, 108xi, 108xj, 108xk, 108xl, 108xm, 108xn, 108xo, 108xp, 108xq, 108xr, 108xs, 108xt, 108xu, 108xv, 108xw, 108xx, 108xy, 108xz, 108ya, 108yb, 108yc, 108yd, 108ye, 108yf, 108yg, 108yh, 10

FIG. 7B

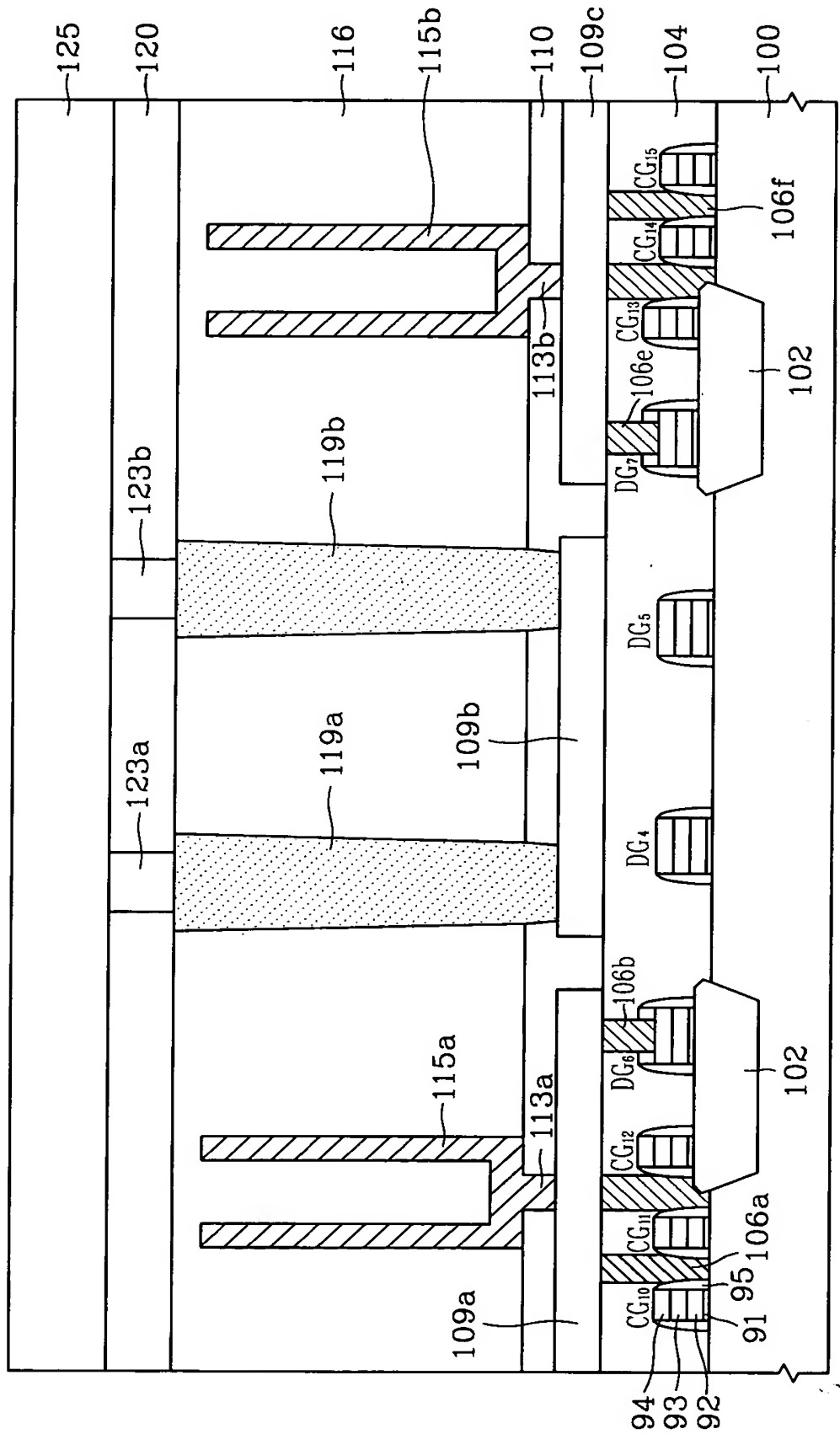


FIG. 7C

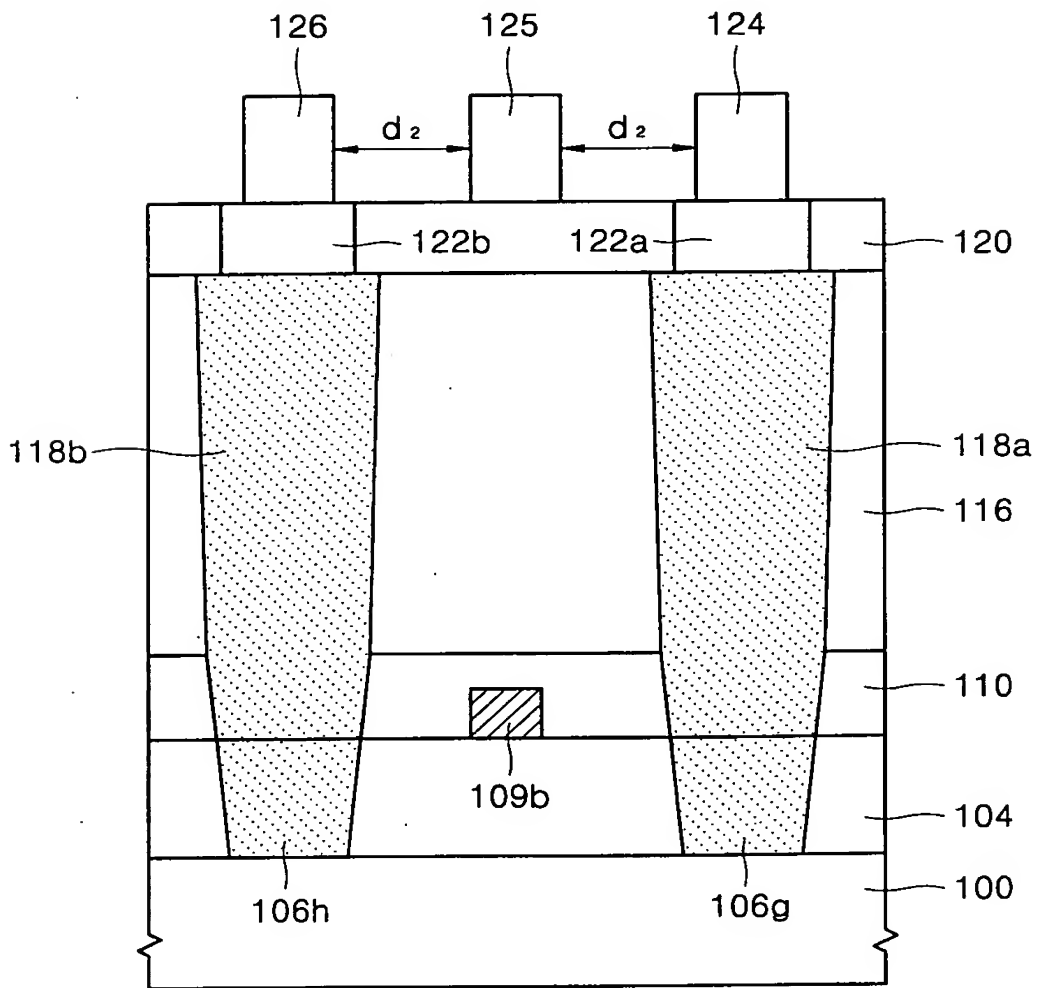


FIG. 8A

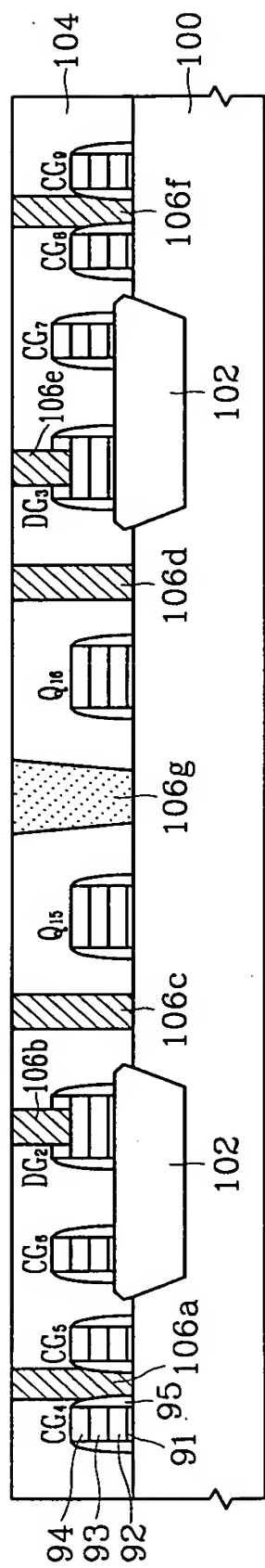
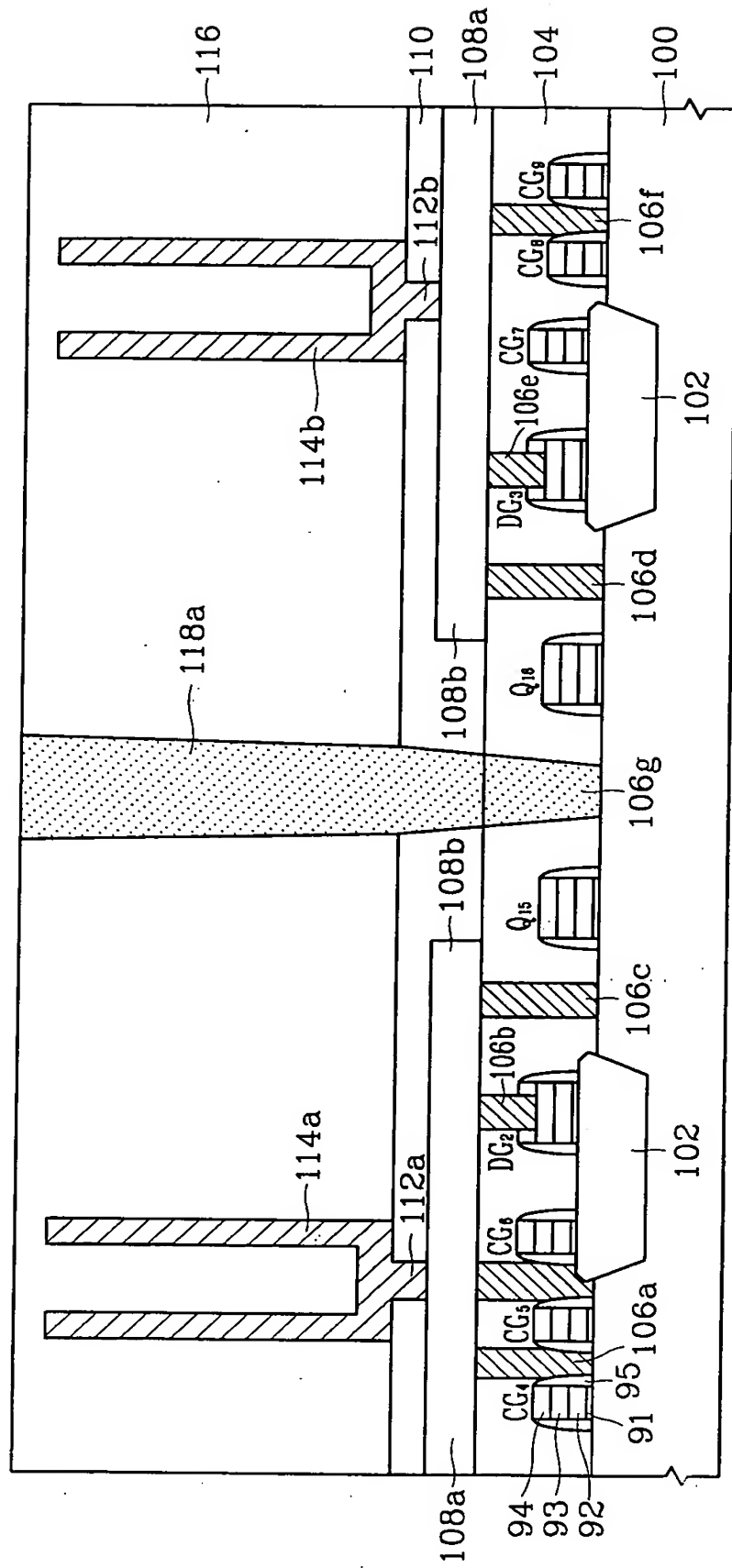


FIG. 8B



100

102

104

106a

106b

108a

108b

110

112a

112b

114a

114b

116

118a

120

122a

91

92

93

94

95

106c

106d

106e

106f

106g

106h

106i

106j

106k

106l

106m

106n

106o

106p

106q

106r

106s

106t

106u

106v

106w

106x

106y

106z

106aa

106ab

106ac

106ad

106ae

106af

106ag

106ah

106ai

106aj

106ak

106al

106am

106an

106ao

106ap

106aq

106ar

106as

106at

106au

106av

106aw

106ax

106ay

106az

106ba

106bb

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106bp

106bq

106br

106bs

106bt

106bu

106bv

106bw

106bx

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106bz

106ca

106cb

106cc

106cd

106ce

106cf

106cg

106ch

106ci

106cj

106ck

106cl

106cm

106cn

106co

106cp

106cq

106cr

106cs

106ct

106cu

106cv

106cw

106cx

106cy

106cz

106da

106db

106dc

106dd

106de

106df

106dg

106dh

106di

106dj

106dk

106dl

106dm

106dn

106do

106dp

106dq

106dr

106ds

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106dv

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106dy

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106em

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106eo

106ep

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106es

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106ez

106fa

106fb

106fc

106fd

106fe

106ff

106fg

106fh

106fi

106fj

106fk

106fl

106fm

106fn

106fo

106fp

106fq

106fr

106fs

106ft

106fu

106fv

106fw

106fx

106fy

106fz

106ga

106gb

106gc

106gd

106ge

106gf

106gg

106gh

106gi

106gj

106gk

106gl

106gm

106gn

106go

106gp

106gq

106gr

106gs

106gt

106gu

106gv

106gw

106gx

106gy

106gz

106ha

106hb

106hc

106hd

106he

106hf

106hg

106hh

106hi

106hj

106hk

106hl

106hm

106hn

106ho

106hp

106hq

106hr

106hs

106ht

106hu

106hv

106hw

106hx

106hy

106hz

106ia

106ib

106ic

106id

106ie

106if

106ig

106ih

106ii

106ij

106ik

106il

106im

106in

106io

106ip

106iq

106ir

106is

106it

106iu

106iv

106iw

106ix

106iy

106iz

106ja

106jb

106jc

106jd

106je

106jf

106jg

106jh

106ji

106jj

106jk

106jl

106jm

106jn

106jo

106jp

106jq

106jr

106js

106jt

106ju

106jv

106jw

106jx

106jy

106jz

106ka

106kb

106kc

106kd

106ke

106kf

106kg

106kh

106ki

106kj

106kk

106kl

106km

106kn

106ko

106kp

106kq

106kr

106ks

106kt

106ku

106kv

106kw

106kx

106ky

106kz

106la

106lb

106lc

106ld

106le

106lf

106lg

106lh

106li

106lj

106lk

106ll

106lm

106ln

106lo

106lp

106lq

106lr

106ls

106lt

106lu

106lv

106lw

106lx

106ly

106lz

106ma

106mb

106mc

106md

106me

106mf

106mg

106mh

106mi

106mj

106mk

106ml

106mm

106mn

106mo

106mp

106mq

106mr

106ms

106mt

106mu

106mv

106mw

106mx

106my

106mz

106na

106nb

106nc

106nd

106ne

106nf

106ng

106nh

106ni

106nj

106nk

106nl

106nm

106